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EXAMINER

VAUGHN JR, WILLIAM C

ART UNIT	PAPER NUMBER
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2143

16

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/322,472

Applicant(s)

KUNDU ET AL.

Examiner

William C. Vaughn, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. This Action is in regards to the Amendment and Reply received on 20 November 2003.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 November 2003 has been entered.

3. The application has been examined. **Claims 1-53** are pending. The objections and rejections cited are as stated below:

Information Disclosure Statement

4. The references listed in the Information Disclosure Statement submitted on 21 November 2002, have been considered by the examiner (see attached PTO-1449).

Claim Objections

5. It is noted that although the present application does contain line numbers in the specification and the claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For each of reference by both the Examiner and Applicant, all future correspondence should include the recommended line numbering format.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 11, 12 and 23-31** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. Claim 11 recites the limitation "the repository". There is insufficient antecedent basis for this limitation in the claim. The Examiner will interpret this limitation to mean "the shared repository".

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1, 7-9, 11-13, 19-21, 29-33, 39-41, 45-47, 50 and 53** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alfieri et al. (Alfieri), U.S. Patent No. 5,666,486 in view of Lennie et al. (Lennie), U.S. Patent No. 6,092,213.

10. Regarding **claim 1**, Alfieri discloses the invention substantially as claimed. Alfieri discloses *a method for maintaining a cluster definition for a network cluster having at least one member node* [see Alfieri, Col. 1, lines 57-67 and Col. 2, lines 1-64], *the method comprising: coupling each member node to a shareable repository* [see Alfieri, Col. 3, lines 33-54]; *storing a*

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cluster definition for the network cluster in the shareable repository [see Alfieri, Col. 3, lines 65-67 and Col. 4, lines 1-34]; *accessing, by each member node in the network cluster, the current cluster definition at the single location in the shared repository* [see Alfieri, Col. 18, lines 33-42]; *selecting a coordinator node from one of the member nodes of the network cluster* (Alfieri teaches a cluster master node for coordinating cluster activity), [see Alfieri, Col. 6, lines 23-30]; *a member node requesting a change to the cluster definition* [see Alfieri, Col. 4, lines 63-67, Col. 5, lines 1-43]. However, Alfieri does not explicitly disclose the coordinator node updating the cluster definition to reflect the requested change.

11. In the same field of endeavor, Lennie discloses (e.g., a computing system in the form of a cluster of a number of multiprocessing nodes). Lennie discloses the coordinator node updating the cluster definition to reflect the requested change [see Lennie, Col. 2, lines 65-67].

12. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Lennie's teachings of a computing system in the form of a cluster of a number of multiprocessing nodes with the teachings of Alfieri, for the purpose of offering high levels of fault tolerance and high availability in software via clustering [see Lennie, Col. 2, lines 21-34]. By this rationale **claim 1** is rejected.

13. Regarding **claim 7**, Alfieri-Lennie discloses *comprising: recovering from a failure of the coordinating node* [see Lennie, Col. 3, lines 10-14]. By this rationale **claim 7** is rejected.

14. Regarding **claim 8**, Alfieri-Lennie discloses wherein recovering includes: selecting a new coordinator node from the member nodes of the network cluster [see Lennie, Col. 3, lines 10-14], completing, by the new coordinator node, an update of the cluster definition to reflect the requested change if there is a set valid bit and an incomplete log file [see Lennie, Col. 6, lines

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3-6] in the shareable repository [see Lennie, Col. 4, lines 14-18]. By this rationale **claim 8** is rejected.

15. Regarding **claim 9**, Alfieri-Lennie discloses *wherein completing an update includes: reading the incomplete log file* [see Lennie, Col. 6, lines 13-15]; *and continuing the update of the cluster definition from a point, as indicated by the incomplete log file, where the coordinating node cease updating the cluster definition due to the failure of the coordinating node* [see Lennie, Col. 3, lines 14-18, 38-40]. By this rationale **claim 9** is rejected.

16. Regarding **claim 11**, Alfieri-Lennie *discloses an apparatus for updating a cluster definition for a network cluster having at least one member node, comprising: a shared repository coupled to each member node of the network cluster* [see Alfieri, Col. 3, lines 46-67], *the repository including the current cluster definition where each member node of the cluster accesses the current cluster definition at a single location in the shared repository* [see Alfieri, Col. 3, lines 64-66] *and a proposed change to the cluster definition to the current cluster definition sent to the shared repository by one of the member nodes* [see Alfieri, Col. 3, lines 65-67 and Col. 4, lines 1-2]; *and a coordinator node, selected from one or the member nodes of the network cluster, to update the current cluster definition with the proposed change* [see Lennie, Col. 2, lines 65-67]. By this rationale **claim 11** is rejected.

17. Regarding **claim 12**, Alfieri-Lennie discloses a log file, indicating a progress of updating the cluster definition (Lennie teaches a master audit log), [see Lennie, Col. 3, lines 38-40]. By this rationale **claim 12** is rejected.

18. **Claim 13** is a product or manufacture claim corresponding to the apparatus claim 11; therefore claim 13 is rejected under the same rationale.

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19. **Claims 19-21** list all the same elements of **claims 7-9**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claims 7-9** applies equally as well to **claims 19-21**.

20. **Claims 29-31** are substantially the same as claims 7-9 and are thus rejected for reasons similar to those in rejecting claims 7-9.

21. **Claim 32** list all the same elements of claim 1, but in system form rather than method form. Therefore, the supporting rationale of the rejection to claim 1 applies equally as well to claim 32.

22. **Claim 33** is substantially the same as claim 1 and is thus rejected for reasons similar to those in rejecting claim 1.

23. **Claims 39 and 40** are substantially the same as claims 7-9 and are thus rejected for reasons similar to those in rejecting claims 7-9.

24. **Claim 41** lists the same elements of claims 33, but in apparatus form rather than method form. Therefore, the supporting rationale of the rejection to claim 33 applies equally as well to claims 41.

25. **Claim 45** is substantially the same as claim 29 and is thus rejected for reasons similar to those in rejecting claim 29.

26. **Claim 46** is substantially the same as claim 1 and is thus rejected for reasons similar to those in rejecting claim 1.

27. **Claim 47** is substantially the same as claim 5 and is thus rejected for reasons similar to those in rejecting claim 7.

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28. **Claim 50 and 53** are substantially the same as claim 1 and are thus rejected for reasons similar to those in rejecting claim 1.

Claim Rejections - 35 USC § 103

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

30. **Claims 2, 3, 10, 14, 15, 22, 23, 34-36, 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alieri-Lennie as applied to claims 1, 2, 3, 11, 13, 33, 41 above, and further in view of Slaughter et al. (Slaughter), U.S. Patent No. 6,014,669.

31. Regarding **claim 2**, Lennie discloses the inventions substantially as claimed. However, Lennie does not explicitly disclose wherein requesting a change to the cluster definition includes: sending a proposed change to a scratch area; and setting a valid bit associated with the scratch area.

32. In the same field of endeavor, Slaughter discloses (e.g., a cluster configuration database). Slaughter discloses *wherein requesting a change to the cluster definition includes: sending a proposed change to a scratch area; and setting a valid bit associated with the scratch area* (Slaughter teaches local consistency records within the cluster configuration database of each member node to a specific area of the database and a flag is used to indicate the database has been restored to a corresponding valid bit. Also, Slaughter further teaches that the consistency record stores a checksum and length of the configuration database which is used to validate the local configuration database copy to ensure that the configuration database has not been corrupted), [see Slaughter, Col. 10, lines 16-17, 64-67 and Col. 11, lines 1-13].

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33. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Slaughter's teachings of a cluster configuration database with the teachings of Alfieri-Lennie, for the purpose of surviving and recovering crashes by utilizing a scratch area and associated valid bit because they certify that the local cluster configuration of each member node is not corrupt. By this rationale **claim 2** is rejected.

34. Regarding **claim 3**, Alfieri-Lennie and Slaughter discloses *wherein updating the cluster definition includes: verifying the valid bit* (Slaughter teaches checking validity), [see Slaughter, Col. 10, lines 41-67 and Col. 11, lines 1-13]; *setting an update flag* [see Slaughter, Col. 6, lines 21-26 and Col. 12, lines 10-11]; *modifying the cluster definition to reflect the requested change* [see Slaughter, Col. 9, lines 25-27]; *logging a progress of modifying the cluster definition in a log file in parallel with modifying the cluster definition* [see Lennie, Col. 3, lines 2-7]; *incrementing a version number associated with the shareable repository* [see Slaughter, Col. 9, lines 27-29]; *and clearing the valid bit and the update flag* (Slaughter teaches remove and update command corresponds to operations to performed on the synchronization command of which a flag may be set as indicia), [see Slaughter, Col. 12, lines 21-23]. By this rationale **claim 3** is rejected.

35. Regarding **claim 10**, Lennie and Slaughter teach the invention substantially as claimed as noted above. Lennie and Slaughter further teach the step of: re-requesting, by the member node, the change to the cluster definition if after a period of time, the change is not made to the cluster definition.

36. **Claims 14 and 15** list all the same elements of **claims 2 and 3**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claims 2 and 3** applies equally as well to **claims 14 and 15**.

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37. **Claim 22** is substantially the same as claim 10 and is thus rejected for reasons similar to those in rejecting claim 10.

38. Regarding **claim 23**, Alfieri-Lennie and Slaughter discloses wherein the proposed change is stored in a scratch area of the shared repository [see Slaughter, Col. 10, lines 16-67 and Col. 11, lines 1-13]. By this rationale **claim 23** is rejected.

39. **Claims 34 and 35** are substantially the same as claims 2 and 3 and are thus rejected for reasons similar to those in rejecting claims 2 and 3.

40. **Claim 36** is substantially the same as claim 10 and is thus rejected for reasons similar to those in rejecting claim 10.

41. **Claim 42** is substantially the same as claim 36 and is thus rejected for reasons similar to those in rejecting claim 36.

Claim Rejections - 35 USC § 103

42. **Claims 4 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alfieri-Lennie and Slaughter as applied to claims 2 and 15 above, and further in view of Arendt, U.S. Patent No. 6,003,075.

43. Regarding **claim 4**, Alfieri-Lennie and Slaughter discloses the invention substantially as claimed as noted above. However, Alfieri-Lennie and Slaughter does not explicitly disclose wherein modifying the cluster definition includes: copying the proposed change from the scratch area to the cluster definition.

44. In the same field of endeavor, Arendt discloses (e.g., configuration changes done dynamically to a cluster multiprocessing system). Arendt discloses *wherein modifying the cluster definition includes: copying the proposed change from the scratch area to the cluster*

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definition (Arendt teaches copying configurations in to a staging area and copied into the active configuration of active nodes [see Arendt, Col. 2, lines 26-31].

45. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Arendt's teachings of configuration changes done dynamically to a cluster multiprocessing system with the teachings of Alfieri-Lennie and Slaughter, for the purpose of enhancing the integrity of the configurations by implementing versioning prior to committing changes. By this rationale **claim 4** is rejected.

46. **Claim 16** list all the same elements of **claim 4**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claim 4** applies equally as well to **claim 16**.

Claim Rejections - 35 USC § 103

47. **Claims 5, 17, 27, 37, 43, 47** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alfieri-Lennie as applied to claims 1, 11, 13, 33, 41, 46 above, and further in view of Slaughter et al. (Slaughter), U.S. Patent No. 5,964,886.

48. Regarding **claim 5**, Alfieri-Lennie discloses the invention substantially as claimed. However, Alfieri-Lennie does not explicitly disclose comprising requesting, by a potential member node, membership in the network cluster; and accessing, by the potential member node, the cluster definition.

49. In the same field of endeavor, Slaughter discloses (e.g., highly available cluster virtual disk system). Slaughter discloses *membership changes including a node joining a cluster and* [see Slaughter, Col. 8, lines 46-47] *and each node of a cluster accessing the storage device of the*

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cluster corresponding to a request for membership and accessing the cluster definition by a potential member node [see Slaughter, Abstract lines 1-3].

50. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Slaughter's teachings of a highly available cluster virtual disk system with the teachings of Alfieri-Lennie, to purpose of providing a request to join and access by a potential member node because it allows nodes to be added to a cluster without suspension in operation. By this rationale **claim 5** is rejected.

51. **Claim 17** list all the same elements of **claim 5**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claim 5** applies equally as well to **claim 17**.

52. **Claim 27** is substantially the same as claim 5 and is thus rejected for reasons similar to those in rejecting claim 5.

53. **Claim 37** is substantially the same as claim 5 and is thus rejected for reasons similar to those in rejecting claim 5.

54. **Claim 43** is substantially the same as claim 5 and is thus rejected for reasons similar to those in rejecting claim 5.

55. **Claim 47** is substantially the same as claim 17 and is thus rejected for reasons similar to those in rejecting claim 17.

Claim Rejections - 35 USC § 103

56. **Claims 6, 18, 38, 44, 48 and 52** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alfieri-Lennie and Slaughter as applied to claims 5, 17, 37, 43, 47 and further in view of Bamford et al. (Bamford), U.S. Patent No. 6,243, 702.

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57. Regarding **claim 6**, Alfieri-Lennie and Slaughter discloses the substantially as claimed. Alfieri-Lennie and Slaughter further discloses *wherein accessing the cluster definition includes: determining a version number of the shared repository to yield a first version number* [see Slaughter, Col. 8, lines 48-49]; *reading the cluster definition* [see Slaughter, Col. 9, lines 9-12]; *re-determining a version number of the shared repository to yield a second version number* (Slaughter teaches a reconfiguration number), [see Slaughter, Col. 11, lines 34-36]; *comparing the first version number with the second version number* [see Slaughter, Col. 11, lines 37-39]. However, Alfieri-Lennie and Slaughter does not explicitly disclose repeating the step of accessing the cluster definition until the first version number equals the second version number.

58. In the same field of endeavor, Bamford discloses (e.g., a method and system for removing propagation delays between a plurality of database servers that have access to a common database). Bamford discloses a logical timestamp as version number [column 1, line 32-34]. Bamford further discloses repeating the step of accessing the cluster definition until the first version number equals the second version number (Bamford teaches a logical timestamp as a version number and synchronizing the logical clocks of database servers on a periodic basis [see Bamford, Col. 1, lines 32-34, Col. 2, lines 59-65 and Col. 3, lines 37-38]).

59. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bamford's teachings of a method and system for removing propagation delays between a plurality of database servers that have access to a common database with the teachings of Alfieri-Lennie and Slaughter, for the purpose of achieving achieve equal version numbers because it would minimize propagation delays. By this rationale **claim 6** is rejected.

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60. **Claim 18** list all the same elements of **claim 6**, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejection to **claim 5** applies equally as well to **claim 18**.

61. **Claim 28** is substantially the same as claim 6 and is thus rejected for reasons similar to those in rejecting claim 6.

62. **Claim 38** is substantially the same as claim 6 and is thus rejected for reasons similar to those in rejecting claim 6.

63. **Claim 44** is substantially the same as claim 6 and is thus rejected for reasons similar to those in rejecting claim 6.

64. **Claim 48** is substantially the same as claim 6 and is thus rejected for reasons similar to those in rejecting claim 6.

65. **Claim 52** is substantially the same as claims 1, 5, and 6 and is thus rejected for reasons similar to those in rejecting claims 1, 5 and 6.

Claim Rejections - 35 USC § 103

66. **Claim 51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alfieri et al. (Alfieri), U.S. Patent No. 5,666,486 in view of Slaughter et al. (Slaughter), U.S. Patent No. 6,014,669 in view of Lennie et al. (Lennie), U.S. Patent No. 6,092,213.

67. Regarding **claim 51**, Alfieri discloses the invention substantially as claimed. Alfieri discloses *a method for maintaining a cluster definition for a network cluster having at least one member node, the method comprising: coupling each member node to a shared repository* [see Alfieri, Col. 3, lines 33-54]; storing a current cluster definition for the network cluster at a single

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location in the shared repository [see Alfieri, Col. 3, lines 65-67 and Col. 4, lines 1-34]; *selecting a coordinator node from the at least one of the member nodes of the network cluster* [(Alfieri teaches a cluster master node for coordinating cluster activity), [see Alfieri, Col. 6, lines 23-30]; at one of the member nodes, requesting a change to the current cluster definition [see Alfieri, Col. 4, lines 63-67, Col. 5, lines 1-43]; However, Alfieri does not explicitly disclose for each requested change sending a proposed change to a scratch area; setting a valid bit associated with the scratch area; verifying the valid bit; setting an update flag; modifying the current cluster definition to reflect the requested change; and logging a progress of modifying the cluster definition in a log file in parallel with modifying the current cluster definition; incrementing a version number associated with the shared repository; and clearing the valid bit and the update flag; and from the coordinator node, updating the current cluster definition at the single location to reflect the requested change.

68. In the same field of endeavor, Slaughter discloses (e.g., a cluster configuration database). Slaughter discloses *each requested change sending a proposed change to a scratch area; setting a valid bit associated with the scratch area* (Slaughter teaches local consistency records within the cluster configuration database of each member node to a specific area of the database and a flag is used to indicate the database has been restored to a corresponding valid bit. Also, Slaughter further teaches that the consistency record stores a checksum and length of the configuration database which is used to validate the local configuration database copy to ensure that the configuration database has not been corrupted), [see Slaughter, Col. 10, lines 16-17, 64-67 and Col. 11, lines 1-13]; *verifying the valid bit* (Slaughter teaches checking validity), [see Slaughter, Col. 10, lines 41-67 and Col. 11, lines 1-13]; *setting an update flag* [see Slaughter,

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Col. 6, lines 21-26 and Col. 12, lines 10-11]; *modifying the current cluster definition to reflect the requested change* [see Slaughter, Col. 9, lines 25-27]; *incrementing a version number associated with the shared repository* [see Slaughter, Col. 9, lines 27-29]; *and clearing the valid bit and the update flag* (Slaughter teaches remove and update command corresponds to operations to performed on the synchronization command of which a flag may be set as indicia), [see Slaughter, Col. 12, lines 21-23].

69. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Slaughter's teachings of a cluster configuration database with the teachings of Alfieri, for the purpose of surviving and recovering crashes by utilizing a scratch area and associated valid bit because they certify that the local cluster configuration of each member node is not corrupt. However, Alfieri-Slaughter does not explicitly disclose logging a progress of modifying the cluster definition in a log file in parallel with modifying the current cluster definition as well as from the coordinator node, updating the current cluster definition at the single location to reflect the requested change.

70. In the same field of endeavor, Lennie discloses (e.g., a computing system in the form of a cluster of a number of multiprocessing nodes). Lennie discloses *logging a progress of modifying the cluster definition in a log file in parallel with modifying the current cluster definition* [see Lennie, Col. 3, lines 2-7] *from the coordinator node, updating the current cluster definition at the single location to reflect the requested change* [see Lennie, Col. 2, lines 65-67].

71. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Lennie's teachings of a computing system in the form of a cluster of a number of multiprocessing nodes with the teachings of Alfieri-

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Slaughter, for the purpose of offering high levels of fault tolerance and high availability in software via clustering [see Lennie, Col. 2, lines 21-34].

Response to Arguments

72. Again, it is the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to continue to claim as broadly as possible their invention. It is also the Examiner's right to continue to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique. Applicant also argues several points regarding network connectivity of the different nodes to the shared repository or the lack of network connectivity between the different nodes within the cluster. Further, Applicant states within in the arguments [see paper 15, page 17, Applicant arguments] that a member node can lose network connectivity and still determine the current cluster definition by accessing the definition at the shared location on the shared repository. These specific points are not provided within the claim limitations. It is requested that the Applicant further provide the details within the claim language regarding the above argument as well as the details regarding "reading of the incomplete log file when a failure occurs and the continuing of the update of the cluster definition" [see Applicant's specification, pages 15, lines 10-19]. As it is extremely well known in the networking art as already shown by the numerous cited prior arts of records disclosed, accessing, by each member node in the network cluster, the current cluster definition at the single location in the shared repository as well as other claimed features of Applicant's

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invention. Thus, it is clear that Applicant must submit amendments to the claims in order to distinguish over the prior art use in the rejection that discloses different features of Applicant's claim invention. Also, as Applicant states within their specification that a single node may form a cluster. If so, does the single node forming the cluster send the current cluster definition to those nodes that are not currently a part of the current cluster?

73. Applicant has had numerous opportunities to amend the claimed subject matter, and has failed to modify the claim language to distinguish over the prior art of record by clarifying or substantially narrowing the claim language. Thus, Applicant apparently intends that a broad interpretation be given to the claims and the Examiner has adopted such in the present and previous Office action rejections. See *In re Prater and Wei*, 162 USPQ 541 (CCPA 1969), and MPEP 2111.

74. Failure for Applicant to significantly narrow definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant intends broad interpretation be given to the claims. The Examiner has interpreted the claims with scope parallel to the Applicant in the response, and reiterates the need for the Applicant to more clearly and distinctly, define the claimed invention.

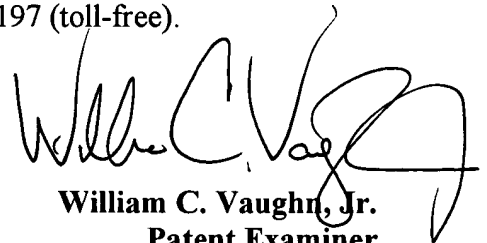
Conclusion

75. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Vaughn, Jr. whose telephone number is (703) 306-9129. The examiner can normally be reached on 8:00-6:00, 1st and 2nd Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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A handwritten signature in black ink, appearing to read "William C. Vaughn, Jr.", with a stylized flourish at the end.

William C. Vaughn, Jr.
Patent Examiner
Art Unit 2143
29 January 2004